

### REMARKS

Claims 1-11 and 19-21 are pending in this application. Of these, claims 1 and 6 are independent. Favorable reconsideration and further examination are respectfully requested.

#### Rejections under 35 U.S.C. 102(a)

The Examiner rejected claims 1-11 and 19-21 under 35 U.S.C. 102(a) as being anticipated by Jain (US 6,615,237) or under 103 as being obvious in view of Jain.

The Examiner also rejected claims 1 and 21 under 35 U.S.C. 102(b) as being anticipated by Niu (US 4,300,032).

Claim 1 relates to a circuit array for controlling operation of two loads that operate with a rectified AC voltage. Claim 1 recites a first current path that includes a first load of the two loads and a second current path that includes a second load of the two loads. The circuit array includes a control unit to generate a switch control signal that controls the semiconductor switch to supply the first current path with a first half wave of the rectified AC voltage and to supply the second current path with a second half wave of the rectified AC voltage.

#### Jain

As shown in FIG. 1 of Jain, Jain describes a modulation control circuit for providing a voltage to a single load 126. Jain states, that “a DC output [] voltage 128 across the third capacitor 124 is connected to a load 126 (shown in dashed lines).”<sup>1</sup> As such, Jain fails to disclose or suggest “a circuit array for controlling operation of two loads that operate with a rectified AC voltage” where the circuit array is configured to “supply the first current path [that includes the first load] with a first half wave of the rectified AC voltage and supply the second current path [that includes the first load] with a second half wave of the rectified AC voltage” as recited in the applicant’s amended claim 1.

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<sup>1</sup> Col. 1, lines 49-51.

The examiner appears to equate the switches 108 and 106 which are connected to the outputs 110 and 122 to the applicant's "two loads."<sup>2</sup> Jain uses two semiconductor switches 108 and 106 rectify a voltage from the secondary windings 106B of a transformer 106 and to control the voltage applied to the single load 126. Signals 110 and 122 are control signals which are provided to the gate terminals of the two semiconductor switches 108 and 116 in the synchronous rectifier. For example, Jain states "it is an object of the invention to provide appropriate gating signals for the controlled rectifier switches..."<sup>3</sup> The gate terminals of the two semiconductor switches 108 and 106 can not be equivalent to the applicant's "loads" because the gate terminals of the transistors are controlled only by a voltage and do not require any current. Further, the gate terminals of the two semiconductor switches 108 and 106 can not be equivalent to the applicant's "first and second loads" because the switches 108 and 106 are part of Jain's synchronous rectifier that is used to generate a rectified voltage. As such, switches 108 and 106 do not "operate with a rectified voltage" and the circuit is not configured to "supply the first current path [that includes the first load] with a first half wave of the rectified AC voltage and supply the second current path [that includes the first load] with a second half wave of the rectified AC voltage" as required by claim 1.

Niu

Figure 4 of Niu shows an arrangement with a coil 11 and a diode 36 connected in parallel on a common current path which are supplied by both a positive and a negative half wave of a rectified AC signal.<sup>4</sup> The examiner appears to equate the coil 11 and diode 36 to the applicant's "two loads." However, the coil 11 and diode 36 can not be equivalent to the applicant's "first and second loads" because the coil 11 and diode 36 are arranged in parallel in the same current path. As such, Niu fails to disclose or suggest "a first current path that includes a first load of the two loads and a second current path that includes a second load of the two loads" as required

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<sup>2</sup> Office action, page 3.

<sup>3</sup> Col. 3, lines 28-31.

<sup>4</sup> Niu, Fig. 4.

by claim 1. Further, since Niu's coil 11 and diode 36 are in the same current path, Niu fails to disclose or suggest a control circuit configured to "supply the first current path [that includes the first load] with a first half wave of the rectified AC voltage and supply the second current path [that includes the first load] with a second half wave of the rectified AC voltage".

Claims 2-5, and 19-21 depend from claim 1 and are patentable for at least the reasons claim 1 is patentable.

Claim 6 recites "a rectifier that is connected to the input and that provides the voltage to the first and second loads, the voltage being generated from the AC voltage... wherein the voltage comprises different half waves of the AC voltage and a first half wave of the rectified AC voltage is applied to the first load and a second half wave of the rectified AC voltage is applied to the second load." As described above, Jain describes a circuit configured to power a single load. Since Jain does not describe powering multiple loads, Jain does not further describe or suggest using a rectifier configured such that the different half waves of the AC voltage are applied to the different loads.

Claims 7-11 depend from claim 6 and are patentable for at least the reasons claim 6 is patentable.

### Summary

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above

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may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.


In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney can be reached at the address shown below. All telephone calls should be directed to the undersigned at 617-956-5986.

Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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